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# In the United States Patent and Trademark Office Patent Application Transmittal

Transmitted herewith for filing is the Patent Application of:

Inventors(s): Alicia A. Chastain, et al

For: Method and System for Creating Mail Rules from Existing Mail

## Enclosed are

23 pages of specification, including 39 claims, plus 9 sheets of *formal* drawings.

X An assignment of the invention to International Business Machines Corporation, Armonk, New York 10504.

A certified copy of a/an application.

X Declaration and Power of Attorney.

X PTO-1449 & references

X A return post card

Other:

## Filing Fee Calculation (For Other Than Small Entity)

Basic Fee:						\$690.00
Claims Fees:	Filed	Limit	Extra		Rate per Extra	
Total claims:	39	20	19		\$18.00	\$342.00
Independent claims:	7	3	4		\$78.00	\$312.00
Multiple Dependent Claim Presented					\$260.00	\$0.00
					<b>Total</b>	<b>\$1,344.00</b>

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Docket No. RSW9-2000-0064-US1

**METHOD AND SYSTEM FOR CREATING MAIL RULES FROM EXISTING  
MAIL**

**CROSS REFERENCE TO RELATED APPLICATION**

The present invention is related to an application  
5 entitled METHOD AND SYSTEM FOR MODIFYING MAIL RULES,  
serial no. \_\_\_\_\_, attorney docket no.  
RSW9-2000-0065-US1 all of which are filed even date  
hereof, assigned to the same assignee, and incorporated  
herein by reference.

10 **1. Field of the Invention:**

The present invention relates generally to an  
improved data processing system and in particular to a  
method and apparatus for processing electronic messages.  
Still more particularly, the present invention provides a  
15 method and apparatus for creating rules for processing  
electronic messages.

**2. Background of the Invention:**

The Internet, also referred to as an "internetwork",  
is a set of computer networks, possibly dissimilar,  
20 joined together by means of gateways that handle data  
transfer and the conversion of messages from the sending  
network to the protocols used by the receiving network  
(with packets if necessary). When capitalized, the term  
"Internet" refers to the collection of networks and  
25 gateways that use the TCP/IP suite of protocols.

Docket No. RSW9-2000-0064-US1

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The Internet has become a cultural fixture as a source of information, entertainment, and communications. Many businesses are creating Internet sites as an integral part of their marketing efforts, informing  
5 consumers of the products or services offered by the business or providing other information seeking to engender brand loyalty. Many federal, state, and local government agencies are also employing Internet sites for informational purposes, particularly agencies which must  
10 interact with virtually all segments of society such as the Internal Revenue Service and secretaries of state. Providing informational guides and/or searchable databases of online public records may reduce operating costs. Further, the Internet is becoming increasingly  
15 popular as a medium for commercial transactions.

In addition to being a source of information, the Internet also provides a communications medium. The Internet has become the most popular computer network used by consumers and businesses to send and receive  
20 electronic mail, also referred to as "e-mail". The Internet allows users to readily send and receive e-mail to and from computers around the world. Each user typically has a unique Internet e-mail address (e.g., steve@ibm.com). A user with an e-mail account and a  
25 computer capable of connecting to the Internet can easily send and receive e-mail over the network.

E-mail allows a person to quickly and easily send textual messages and other information, such as, for example, pictures, sound recordings, and formatted  
30 documents electronically to other e-mail users anywhere

Docket No. RSW9-2000-0064-US1

in the world. An e-mail user will typically create a message using an e-mail program running on a computer connected to a computer network through a modem. The message will include an e-mail "address" for the intended recipient. When the user has finished entering the message, the user may "send" the message to the intended recipient. The e-mail program then electronically transmits the message over the computer network. The recipient, using an e-mail program running on the recipient's computer, can then "receive" the message.

When receiving messages, the messages are typically placed in an "inbox" from which the recipient can view the messages. Additionally, some e-mail programs allow a user to set up rules for intercepting messages intended for them and acting upon the message via a "mail" rule. For example, a user may set up a rule to direct any mail received from a particular sender to be automatically placed into a particular folder. Many e-mail programs allow the users to define rules to perform actions on incoming messages. For example, the rule may perform a selected action based on the content of a mail header or the specific content of the message. In another example, the user may direct any mail received containing a selected phrase in the body of a message to be automatically deleted. Currently available e-mail programs provide a user interface for the user to compose rules for use in filtering and processing messages. These interfaces are sometimes confusing and complicated for users. Currently, the rules are typically created manually through a dialog or series of dialogs in which a

Docket No. RSW9-2000-0064-US1

user defines the rule, what conditions must be present for the rule to take effect, and the resulting action. As a result, some users do not use rules to filter and process messages.

- Therefore, it would be advantageous to have an improved method and apparatus for creating rules used in processing incoming messages.

Docket No. RSW9-2000-0064-US1

### SUMMARY OF THE INVENTION

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The present invention provides a method in a data processing system for creating rules to process electronic messages. The mechanism of the present invention is used in the instances in which a rule is absent. User input is detected moving an electronic message into a folder. In response to this user input, the characteristics of the electronic message is used to generate a new mail rule. If other messages exist in the folder and the user has selected these other messages, the characteristics of the new message are compared with other electronic messages in the folder to form a comparison. A rule for processing the electronic message is then generated based on the comparison.

15       The generated rule is presented for acceptance or modification by the user. If the user accepts the rule, the rule is saved. The user may modify the rule or cancel creation of the rule. In modifying an existing rule, the mechanism of the present invention may present new conditions for the rule if the rule presented to the user is unacceptable. With messages already present in the folder, commonality between the electronic message being moved into the folder and the other messages present in the folder (upon which the existing rule is based) is used to select conditions for generating the rule. Further, new rules may be generated for actions other than moving a message into a folder. For example, rules may be generated under the mechanism of the present

Docket No. RSW9-2000-0064-US1

invention for actions such as deleting or forwarding the  
electronic message.

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Docket No. RSW9-2000-0064-US1

### BRIEF DESCRIPTION OF THE DRAWINGS

The novel features believed characteristic of the invention are set forth in the appended claims. The invention itself, however, as well as a preferred mode of use, further objectives and advantages thereof, will best be understood by reference to the following detailed description of an illustrative embodiment when read in conjunction with the accompanying drawings, wherein:

**Figure 1** depicts a pictorial representation of a distributed data processing system in which the present invention may be implemented;

**Figure 2** is a block diagram of a data processing system that may be implemented as a server in accordance with a preferred embodiment of the present invention;

**Figure 3** is a block diagram illustrating a data processing system in which the present invention may be implemented;

**Figure 4** is a block diagram of an e-mail program in accordance with a preferred embodiment of the present invention;

**Figures 5A-5C** are diagrams illustrating a process for making and using a rule in accordance with a preferred embodiment of the present invention;

**Figure 6** is a diagram illustrating an example interface used to present a rule to a user in accordance with a preferred embodiment of the present invention; and



Docket No. RSW9-2000-0064-US1

**Figure 7** is a flowchart of a process used for generating a rule based on user manipulation of an electronic message in accordance with a preferred embodiment of the present invention.

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## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference now to the figures, **Figure 1** depicts a pictorial representation of a distributed data processing system in which the present invention may be implemented.

5 Distributed data processing system **100** is a network of computers in which the present invention may be implemented. Distributed data processing system **100** contains a network **102**, which is the medium used to provide communications links between various devices and  
10 computers connected together within distributed data processing system **100**. Network **102** may include permanent connections, such as wire or fiber optic cables, or temporary connections made through telephone connections.

In the depicted example, a server **104** is connected to  
15 network **102** along with storage unit **106**. In addition, clients **108**, **110**, and **112** also are connected to network **102**. These clients **108**, **110**, and **112** may be, for example, personal computers or network computers. For purposes of this application, a network computer is any computer,  
20 coupled to a network, which receives a program or other application from another computer coupled to the network. In the depicted example, server **104** provides data, such as boot files, operating system images, and applications to clients **108-112**. Clients **108**, **110**, and **112** are clients to  
25 server **104**. In the depicted examples, server **104** may contain an electronic mail system from which clients **108**, **110**, and **112** send and receive e-mail messages through e-mail programs or applications located on the clients.

Docket No. RSW9-2000-0064-US1

Distributed data processing system **100** may include additional servers, clients, and other devices not shown. For example, messages may be sent and received between server **104** and other servers (not shown) to distribute  
5 and receive messages from other clients (not shown).

In the depicted example, distributed data processing system **100** is the Internet with network **102** representing a worldwide collection of networks and gateways that use the TCP/IP suite of protocols to communicate with one another.  
10 At the heart of the Internet is a backbone of high-speed data communication lines between major nodes or host computers, consisting of thousands of commercial, government, educational and other computer systems that route data and messages. Of course, distributed data  
15 processing system **100** also may be implemented as a number of different types of networks, such as for example, an intranet, a local area network (LAN), or a wide area network (WAN). **Figure 1** is intended as an example, and not as an architectural limitation for the present invention.

Referring to **Figure 2**, a block diagram of a data  
20 processing system that may be implemented as a server, such as server **104** in **Figure 1**, is depicted in accordance with a preferred embodiment of the present invention. In the depicted examples, data processing system **200** is used  
25 as an electronic mail message server providing service to a number of different clients.

Data processing system **200** may be a symmetric multiprocessor (SMP) system including a plurality of processors **202** and **204** connected to system bus **206**.  
30 Alternatively, a single processor system may be employed.

Docket No. RSW9-2000-0064-US1

Also connected to system bus **206** is memory controller/cache **208**, which provides an interface to local memory **209**. I/O bus bridge **210** is connected to system bus **206** and provides an interface to I/O bus **212**. Memory  
5 controller/cache **208** and I/O bus bridge **210** may be integrated as depicted.

Peripheral component interconnect (PCI) bus bridge **214** connected to I/O bus **212** provides an interface to PCI local bus **216**. A number of modems may be connected to PCI  
10 bus **216**. Typical PCI bus implementations will support four PCI expansion slots or add-in connectors. Communications links to network computers **108-112** in **Figure 1** may be provided through modem **218** and network adapter **220** connected to PCI local bus **216** through add-in  
15 boards.

Additional PCI bus bridges **222** and **224** provide interfaces for additional PCI buses **226** and **228**, from which additional modems or network adapters may be supported. In this manner, data processing system **200**  
20 allows connections to multiple network computers. A memory-mapped graphics adapter **230** and hard disk **232** may also be connected to I/O bus **212** as depicted, either directly or indirectly.

Those of ordinary skill in the art will appreciate  
25 that the hardware depicted in **Figure 2** may vary. For example, other peripheral devices, such as optical disk drives and the like, also may be used in addition to or in place of the hardware depicted. The depicted example is not meant to imply architectural limitations with respect  
30 to the present invention.

Docket No. RSW9-2000-0064-US1

The data processing system depicted in **Figure 2** may be, for example, an IBM RISC/System 6000 system, a product of International Business Machines Corporation in Armonk, New York, running the Advanced Interactive Executive (AIX) operating system.

With reference now to **Figure 3**, a block diagram illustrating a data processing system in which the present invention may be implemented. Data processing system **300** is an example of a client computer. In these examples, data processing system **300** may include any mail program or application for generating, sending, and receiving messages.

Data processing system **300** employs a peripheral component interconnect (PCI) local bus architecture. Although the depicted example employs a PCI bus, other bus architectures such as Accelerated Graphics Port (AGP) and Industry Standard Architecture (ISA) may be used. Processor **302** and main memory **304** are connected to PCI local bus **306** through PCI bridge **308**. PCI bridge **308** also may include an integrated memory controller and cache memory for processor **302**. Additional connections to PCI local bus **306** may be made through direct component interconnection or through add-in boards. In the depicted example, local area network (LAN) adapter **310**, SCSI host bus adapter **312**, and expansion bus interface **314** are connected to PCI local bus **306** by direct component connection. In contrast, audio adapter **316**, graphics adapter **318**, and audio/video adapter **319** are connected to PCI local bus **306** by add-in boards inserted into expansion slots. Expansion bus interface **314** provides a connection

Docket No. RSW9-2000-0064-US1

for a keyboard and mouse adapter 320, modem 322, and additional memory 324. Small computer system interface (SCSI) host bus adapter 312 provides a connection for hard disk drive 326, tape drive 328, and CD-ROM drive 330.

- 5 Typical PCI local bus implementations will support three or four PCI expansion slots or add-in connectors.

An operating system runs on processor 302 and is used to coordinate and provide control of various components within data processing system 300 in **Figure 3**. The  
10 operating system may be a commercially available operating system, such as Windows 2000, which is available from Microsoft Corporation. An object oriented programming system such as Java may run in conjunction with the operating system and provides calls to the operating  
15 system from Java programs or applications executing on data processing system 300. "Java" is a trademark of Sun Microsystems, Inc. Instructions for the operating system, the object-oriented operating system, and applications or programs are located on storage devices, such as hard disk  
20 drive 326, and may be loaded into main memory 304 for execution by processor 302.

Those of ordinary skill in the art will appreciate that the hardware in **Figure 3** may vary depending on the implementation. Other internal hardware or peripheral  
25 devices, such as flash ROM (or equivalent nonvolatile memory) or optical disk drives and the like, may be used in addition to or in place of the hardware depicted in **Figure 3**. Also, the processes of the present invention may be applied to a multiprocessor data processing  
30 system.

Docket No. RSW9-2000-0064-US1

For example, data processing system 300, if optionally configured as a network computer, may not include SCSI host bus adapter 312, hard disk drive 326, tape drive 328, and CD-ROM 330, as noted by dotted line 5 332 in Figure 3 denoting optional inclusion. In that case, the computer, to be properly called a client computer, must include some type of network communication interface, such as LAN adapter 310, modem 322, or the like. As another example, data processing system 300 may 10 be a stand-alone system configured to be bootable without relying on some type of network communication interface, whether or not data processing system 300 comprises some type of network communication interface. As a further example, data processing system 300 may be a Personal 15 Digital Assistant (PDA) device, which is configured with ROM and/or flash ROM in order to provide non-volatile memory for storing operating system files and/or user-generated data.

The depicted example in Figure 3 and above-described 20 examples are not meant to imply architectural limitations. For example, data processing system 300 also may be a notebook computer or hand held computer in addition to taking the form of a PDA. Data processing system 300 also may be a kiosk or a Web appliance.

25 The present invention provides a method, apparatus, and computer implemented instructions for creating rules for processing electronic messages. The mechanism of the present invention creates a new rule based on user input manipulating electronic messages. For example, to create 30 a new rule that would move specific electronic messages

Docket No. RSW9-2000-0064-US1

into a specific folder, the user moves an existing electronic message with the desired characteristics in the folder. Then, the user selects or multiselects the electronic message or messages placed into the folder and  
5 initiates an action to make a rule. This initiation may be accomplished in a number of ways, such as, for example, a menu choice, a toolbar button, or a pointer menu. The mechanism of the present invention parses through the selected message or messages and looks for  
10 commonality or specific characteristics. When complete, the user is presented with the result of the comparison. If the comparison yields a condition of commonality, a rule based on these results is generated and presented to the user. The user may then name and accept the new  
15 rule. If no clear condition of commonality is present, a series of options based on selected criteria is presented to the user.

For example, the user creates a folder entitled "From Joe" and the user drags existing electronic  
20 messages from Joe into this folder. Then, the messages are selected and the user initiates the mechanism of the present invention to make a rule. The messages are parsed and, in this example, the commonality between the messages is the address of the sender, joe@ibm.com. The  
25 user is presented with a dialog asking to confirm a new rule to move all messages from the sender, joe@ibm.com, into the folder "From Joe". If the user confirms the rule, the rule is then saved. Otherwise, the user may make modifications to the rule if desired or discard the  
30 rule.



Docket No. RSW9-2000-0064-US1

Turning next to **Figure 4**, a block diagram of an e-mail program is depicted in accordance with a preferred embodiment of the present invention. E-mail program **400** in this example includes a message processing unit **402** which processes messages, such as electronic message **404**, created and received by the user. Message processing unit **402** may be implemented by using currently available mail systems, such as Lotus Notes or CC Mail, which are available from Lotus Development Corporation. If electronic message **404** is an electronic message received by message processing unit **402**, the electronic message may be stored in storage **406**.

Mail program **400** also includes mail displayer **408**, which is a graphical user interface (GUI) that is used to display electronic message **404**. If the user edits or generates an electronic message, these functions may be accomplished through mail editor **410**. Electronic messages may be placed into different folders in storage **406** by message processing unit **402** using filter **412**. Filter **412** identifies actions to perform upon electronic messages based on the content in the messages and rules **414**. Rules **414** include rules such as those for routing messages to various folders as well as taking other actions, such as forwarding or deleting electronic messages. Further, mail program **400** includes a rules module **416**, which is an example of where the processes of the present invention may be implemented. In particular, rules module **416** will identify user actions upon an electronic message, compare the electronic message against criteria to generate a rule. The rule is then

Docket No. RSW9-2000-0064-US1

presented to the user for acceptance or modification.

The criteria may be preselected criteria if the action on the electronic message is a movement of the electronic message into a folder. Further, the user may select

5 other messages, if present in the folder, such that these messages are used in generating the new rule. In such a case, the mechanism of the present invention searches for a commonality within all of the selected messages and the message that is moved into the folder.

10 Alternatively, the criteria may be based on content in selected portions of the electronic message or whether selected content is present in the electronic message. For example, the criteria may be to select the sender's address for use in generating a rule with the subject  
15 matter of the message being the second option for use in generating the rule. Also, if certain words are present between multiple messages, these words may be used in generating the rule. The time and date in the electronic message is an example of another criteria. Any  
20 information in the electronic message may be used. Some criteria may be given priority over other criteria, using a priority rule depending on the implementation. The commonality may be priority-based in which commonality in the sender's address is searched for before commonality  
25 of the subject of the message.

Turning next to **Figures 5A-5C**, diagrams illustrating a process for making and using a rule are depicted in accordance with a preferred embodiment of the present invention. Incoming mail 500 may be placed into mail  
30 folders entitled "Inbox" 502, "From Joe" 504, and "From

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Docket No. RSW9-2000-0064-US1

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Dan" 506 using various routing rules, such as rule 508. In this example, the user initiates generation of rule 508 by creating the folder "From Joe" 504. The user then selects electronic message 510 in folder "Inbox" 502 and places that electronic message in folder "From Joe" 504. The mechanism of the present invention analyzes the electronic message and proposes or displays a rule to the user that will take incoming mail with the header "From" that equals "joe@ibm.com" and places that electronic message in folder "From Joe" 504.

In Figure 5B, rule 508 has been accepted by the user and is stored as a routing rule. This rule may be stored in rules 414 in Figure 4. This routing rule takes all messages having a header "From" that equals "joe@ibm.com" and places the electronic message in folder 504 entitled "From Joe". In Figure 5C, an incoming message 512 is received. In this example, the content in the header "From" is "joe@ibm.com". Using rule 508, electronic message 512 is placed into folder "From Joe" 504.

In this manner, the user is not required to navigate numerous dialog boxes to generate a rule. The rule is generated based on the existing mail and the user's input. The user then is able to accept the rule, modify it, or cancel it.

Turning next to Figure 6, a diagram illustrating an example interface used to present a rule to a user is depicted in accordance with a preferred embodiment of the present invention. Rule dialog 600 is an example of a dialog used to present a rule to a user based on the sequence of actions taken by a user in Figures 5A-5B.

Docket No. RSW9-2000-0064-US1

Dialog **600** presents a rule in section **602** to the user based on the user's actions in moving electronic mail message **510** from the folder "Inbox" **502** to the folder "From Joe" **504**. The user may accept this proposed rule  
5 by selecting "OK" button **604**, which causes the rule to be saved. Alternatively, the user may modify the rule by selecting alternatives such as the subject or content as presented by selections **606-610** in dialog **600**. After selecting one or more of these selections, a new rule may  
10 be generated by selecting "Apply" button (or similar device) **612**. A new rule will then be presented to the user for viewing. If the user decides not to use the rule, the rule may be discarded by selecting "Cancel" button **614**.

15 Turning next to **Figure 7**, a flowchart of a process used for generating a rule based on user manipulation of an electronic message is depicted in accordance with a preferred embodiment of the present invention. The process illustrated in **Figure 7** may be implemented in  
20 rules module **416** in **Figure 4**. In this example, the process is initiated by the user selecting a menu or graphical control indicating that a new rule should be generated.

The process begins by receiving user input to  
25 manipulate the electronic message (step **700**). In the depicted examples, the manipulation may take various forms, such as, for example, moving the electronic message from one folder to another folder, deleting the electronic message, or forwarding the electronic message.  
30 Next, an action on the electronic message is performed

Docket No. RSW9-2000-0064-US1

based on the user input (step 702). A determination is then made as to whether the user has selected other electronic messages (step 704). If the user has selected other messages in addition to the electronic message on which the action has been taken, the electronic message is parsed using priority-based common fields and content (step 706). In other words, commonality between the electronic message and other electronic messages may be identified or content from selected fields may be identified. Then, a rule is generated (step 708). The rule is presented to the user (step 710). Next, user input is received modifying and/or approving or disapproving the rule (step 712).

Next, a determination is made as to whether the rule was approved (step 714). If the rule was approved, the rule is stored for use in filtering incoming mail (step 716) with the process terminating thereafter. With reference again to step 714, if the rule was not approved, the process terminates.

Turning back to step 704, if other messages are not selected, then selected fields are identified (step 718) with the process then proceeding to step 708 to generate a rule based on these identified fields.

Thus, the present invention provides a method, apparatus, and computer implemented instructions for creating mail rules using existing electronic messages. The manipulation of the electronic message is used to identify the action to be taken. Future messages on which the action is to be taken is identified based on comparing the electronic message to a criteria. The

Docket No. RSW9-2000-0064-US1

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results of the comparison of the message to a criteria  
may contain common content between the selected message  
and other messages. Additionally, characteristics such  
as the address and the subject are examples of other  
5 characteristics that may be identified. Multiple  
characteristics also may be used. For example, the  
address of the sender and the date of the message may be  
used to route or place messages into a particular folder.  
Of course, other actions such as deleting messages and  
10 forwarding messages, may be implemented in the rules  
based on user actions manipulating an electronic message.

It is important to note that while the present  
invention has been described in the context of a fully  
functioning data processing system, those of ordinary  
15 skill in the art will appreciate that the processes of  
the present invention are capable of being distributed in  
the form of a computer readable medium of instructions  
and a variety of forms and that the present invention  
applies equally regardless of the particular type of  
20 signal bearing media actually used to carry out the  
distribution. Examples of computer readable media  
include recordable-type media such a floppy disc, a hard  
disk drive, RAM, CD-ROMs, and transmission-type media  
such as digital and analog communications links.

25 The description of the present invention has been  
presented for purposes of illustration and description,  
and is not intended to be exhaustive or limited to the  
invention in the form disclosed. Many modifications and  
variations will be apparent to those of ordinary skill in  
30 the art. The embodiment was chosen and described in

Docket No. RSW9-2000-0064-US1

order to best explain the principles of the invention,  
the practical application, and to enable others of  
ordinary skill in the art to understand the invention for  
various embodiments with various modifications as are  
5 suited to the particular use contemplated.

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Docket No. RSW9-2000-0064-US1

**CLAIMS:**

What is claimed is:

- 1 1. A method in a data processing system for creating  
2 rules to process electronic messages:  
3 detecting user input moving an electronic message  
4 into a folder;  
5 comparing characteristics of the electronic message  
6 with other electronic messages in the folder to form a  
7 comparison; and  
8 generating a rule to process electronic messages  
9 based on the comparison.
- 1 2. The method of claim 1 further comprising:  
2 processing received messages using the rule.
- 1 3. The method of claim 2, wherein the processing step  
2 is initiated in response to another user input approving  
3 use of the rule.
- 1 4. The method of claim 1, wherein the criteria includes  
2 priority-based common fields and common content.
- 1 5. The method of claim 1, wherein the folder is a trash  
2 folder.
- 1 6. The method of claim 1, wherein the detecting step,  
2 the comparing step, and the generating step are initiated  
3 in response to a selected user input.

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Docket No. RSW9-2000-0064-US1

1 7. The method of claim 1, wherein the criteria includes  
2 at least one of a sender address, a selected word in a  
3 subject line body of the electronic message, a select  
4 word in a body of the electronic message, and an  
5 attribute of the time/date field of the electronic  
6 message.

1 8. The method of claim 1, wherein the other electronic  
2 messages in the folder are electronic messages selected  
3 through user input.

1 9. The method of claim 1 further comprising:  
2 generating the rule to process electronic messages  
3 based on characteristics of the electronic message if  
4 other electronic messages in the folder are absent.

1 10. The method of claim 1 further comprising:  
2       generating the rule to process electronic messages  
3 based on characteristics of the electronic message if  
4 other electronic messages in the folder are unselected by  
5 user input.

1 11. The method of claim 10 further comprising:  
2 presenting the rule for review; and  
3 using the rule to process electronic messages if  
4 user input accepting the rule is received.

1 12. The method of claim 11 further comprising:  
2 presenting a modification of the rule if user input  
3 accepting the rule is absent.

Docket No. RSW9-2000-0064-US1

1 13. A method in a data processing system for processing  
2 electronic messages, the method comprising the data  
3 processing system implemented steps of:

4 identifying an action on an electronic message;  
5 identifying characteristics of the electronic  
6 message using a criteria to form a comparison; and  
7 generating a rule to process electronic messages  
8 including the action and a selected characteristic  
9 identified in the comparison.

1 14. The method of claim 13, wherein the action is a  
2 deletion of the electronic message.

1 15. The method of claim 13 further comprising:  
2 responsive to the action being performed on other  
3 electronic messages comparing characteristics of the  
4 electronic message the other electronic messages.

1 16. The method of claim 13, wherein the action is a  
2 movement of the electronic message into a folder  
3 containing other electronic messages and wherein the step  
4 of identifying characteristics comprises:  
5 comparing the electronic message to other electronic  
6 messages using the criteria to form the comparison.

1 17. A data processing system comprising:  
2 a bus system;  
3 a communications unit connected to the bus system;

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Docket No. RSW9-2000-0064-US1

4 a memory connected to the bus system, wherein the  
5 memory includes as set of instructions; and  
6 a processing unit connected to the bus system,  
7 wherein the processing unit executes the set of  
8 instructions to identify an action on an electronic  
9 message, identify characteristics of the electronic  
10 message using a criteria to form a comparison, and  
11 generate a rule to process electronic messages including  
12 the action and a selected characteristic identified in  
13 the comparison.

1 18. The data processing system of claim 17, wherein the  
2 bus system is a single bus.

1 19. The data processing system of claim 17, wherein the  
2 bus system includes a primary bus and a secondary bus.

1 20. The data processing system of claim 17, wherein the  
2 processing unit includes a plurality of processors.

1 21. The data processing system of claim 17, wherein the  
2 communications unit is one of a modem and Ethernet  
3 adapter.

1 22. A data processing system in a data processing system  
2 for creating rules to process electronic messages:  
3 detecting means for detecting user input moving an  
4 electronic message into a folder;

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Docket No. RSW9-2000-0064-US1

5 comparing means for comparing characteristics of the  
6 electronic message with other electronic messages in the  
7 folder to form a comparison; and  
8 generating means for generating a rule to process  
9 electronic messages based on the comparison.

1 23. The data processing system of claim 22 further  
2 comprising:  
3 processing means for processing received messages  
4 using the rule.

1 24. The data processing system of claim 22, wherein the  
2 routing means is activated in response to another user  
3 input approving use of the rule.

1 25. The data processing system of claim 21, wherein the  
2 criteria includes priority-based common fields and common  
3 content.

1 26. The data processing system of claim 21, wherein the  
2 folder is a trash folder.

1 27. The data processing system of claim 21, wherein the  
2 detecting means, the comparing means, and the generating  
3 means are activated in response to a selected user input.

1 28. The data processing system of claim 21, wherein the  
2 criteria includes at least one of a sender address, a  
3 selected word in a subject line body of the electronic  
4 message, a select word in a body of the electronic

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Docket No. RSW9-2000-0064-US1

5 message, and an attribute of the time/date field of the  
6 electronic message.

1 29. The data processing system of claim 21, wherein the  
2 other electronic messages in the folder are electronic  
3 messages selected through user input.

1 30. The data processing system of claim 21 further  
2 comprising:  
3 generating means for generating the rule to process  
4 electronic messages based on characteristics of the  
5 electronic message if other electronic messages in the  
6 folder are absent.

1 31. The data processing system of claim 21 further  
2 comprising:  
3 generating means for generating the rule to process  
4 electronic messages based on characteristics of the  
5 electronic message if other electronic messages in the  
6 folder are unselected by user input.

1 32. The data processing system of claim 31 further  
2 comprising:  
3 presenting means for presenting the rule for review;  
4 and  
5 using means for using the rule to process electronic  
6 messages if user input accepting the rule is received.

1 33. The data processing system of claim 32 further  
2 comprising:

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Docket No. RSW9-2000-0064-US1

3       presenting means for presenting a modification of  
4   the rule if user input accepting the rule is absent.

1 34. A data processing system for processing electronic  
2 messages, the data processing system comprising the data  
3 processing system implemented steps of:

4 first identifying means for identifying an action on  
5 an electronic message;

6       second identifying means for identifying  
7       characteristics of the electronic message using a  
8       criteria to form a comparison; and

9           generating means for generating a rule to process  
10   electronic messages including the action and a selected  
11   characteristic identified in the comparison.

1 35. The data processing system of claim 34, wherein the  
2 action is a deletion of the electronic message.

1 36. The data processing system of claim 34 further  
2 comprising:

3 responsive means for responsive to the action being  
4 performed on other electronic messages comparing  
5 characteristics of the electronic message the other  
6 electronic messages.

1 37. The data processing system of claim 34, wherein the  
2 action is a movement of the electronic message into a  
3 folder containing other electronic messages and wherein  
4 the second identifying means comprises:

Docket No. RSW9-2000-0064-US1

5 comparing means for comparing the electronic message  
6 to other electronic messages using the criteria to form  
7 the comparison.

1 38. A computer program product in a computer readable  
2 medium for use in a data processing system for creating  
3 rules to process electronic messages:

4 first instructions for detecting user input moving  
5 an electronic message into a folder;

6 second instructions for comparing characteristics of  
7 the electronic message with other electronic messages in  
8 the folder to form a comparison; and

9 third instructions for generating a rule to process  
10 electronic messages based on the comparison.

1 39. A computer program product in a data processing  
2 system for processing electronic messages, the computer  
3 program product comprising the data processing system  
4 implemented steps of:

5 first instructions for identifying an action on an  
6 electronic message;

7 second instructions for identifying characteristics  
8 of the electronic message using a criteria to form a  
9 comparison; and

10 third instructions for generating a rule to process  
11 electronic messages including the action and a selected  
12 characteristic identified in the comparison.

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Docket No. RSW9-2000-0064-US1

**ABSTRACT OF THE DISCLOSURE**

**METHOD AND SYSTEM FOR CREATING MAIL RULES FROM EXISTING  
MAIL**

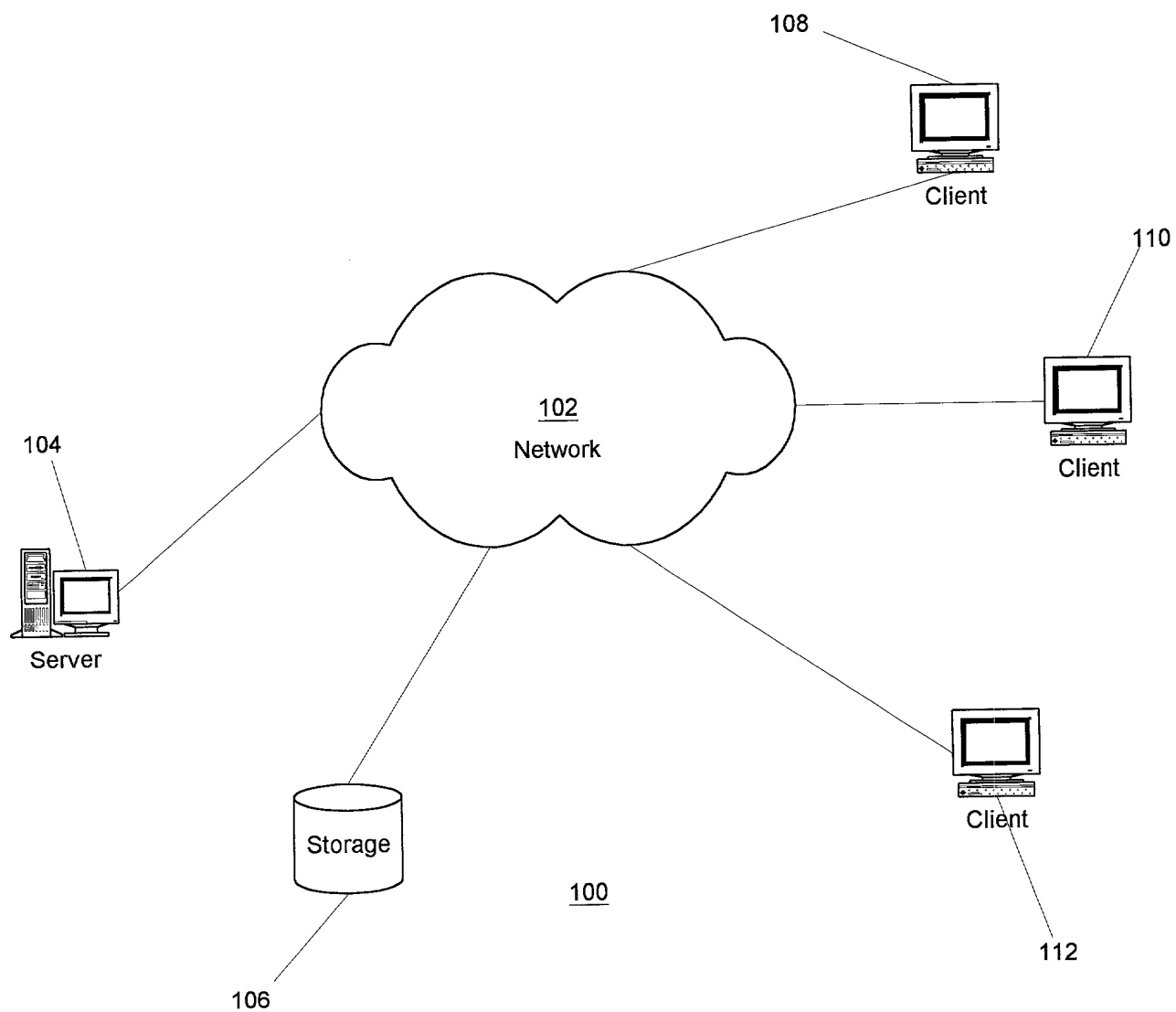
5 A method in a data processing system for creating  
rules to process electronic messages. User input is  
detected moving an electronic message into a folder. In  
response to this user input, the characteristics of the  
electronic message are compared with other electronic  
10 messages in the folder to form a comparison. A rule for  
processing the electronic message is generated based on  
the comparison.

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# Figure 1

RSW9-2000-0064-US1



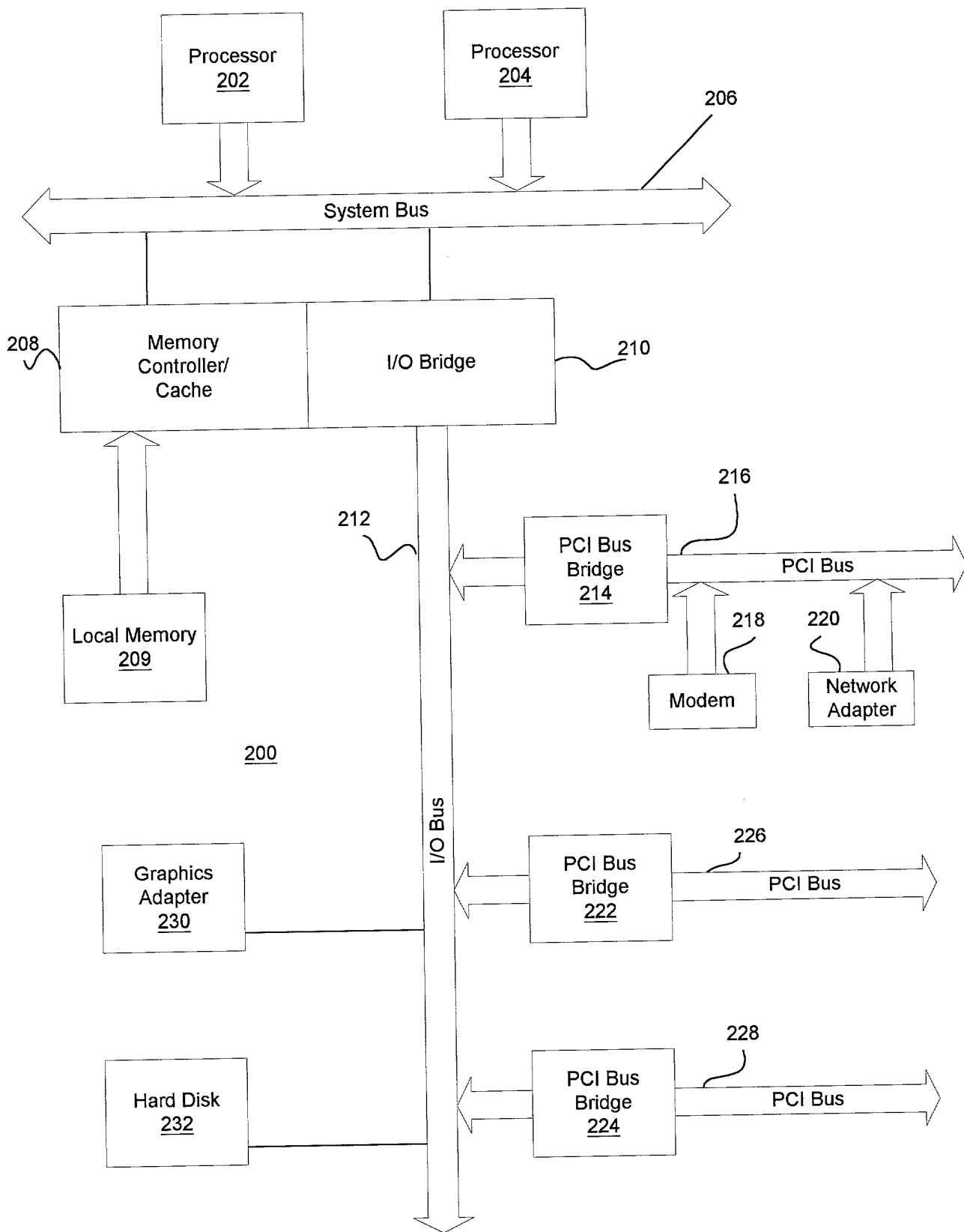


Figure 2

RSW9-2000-0064-US1

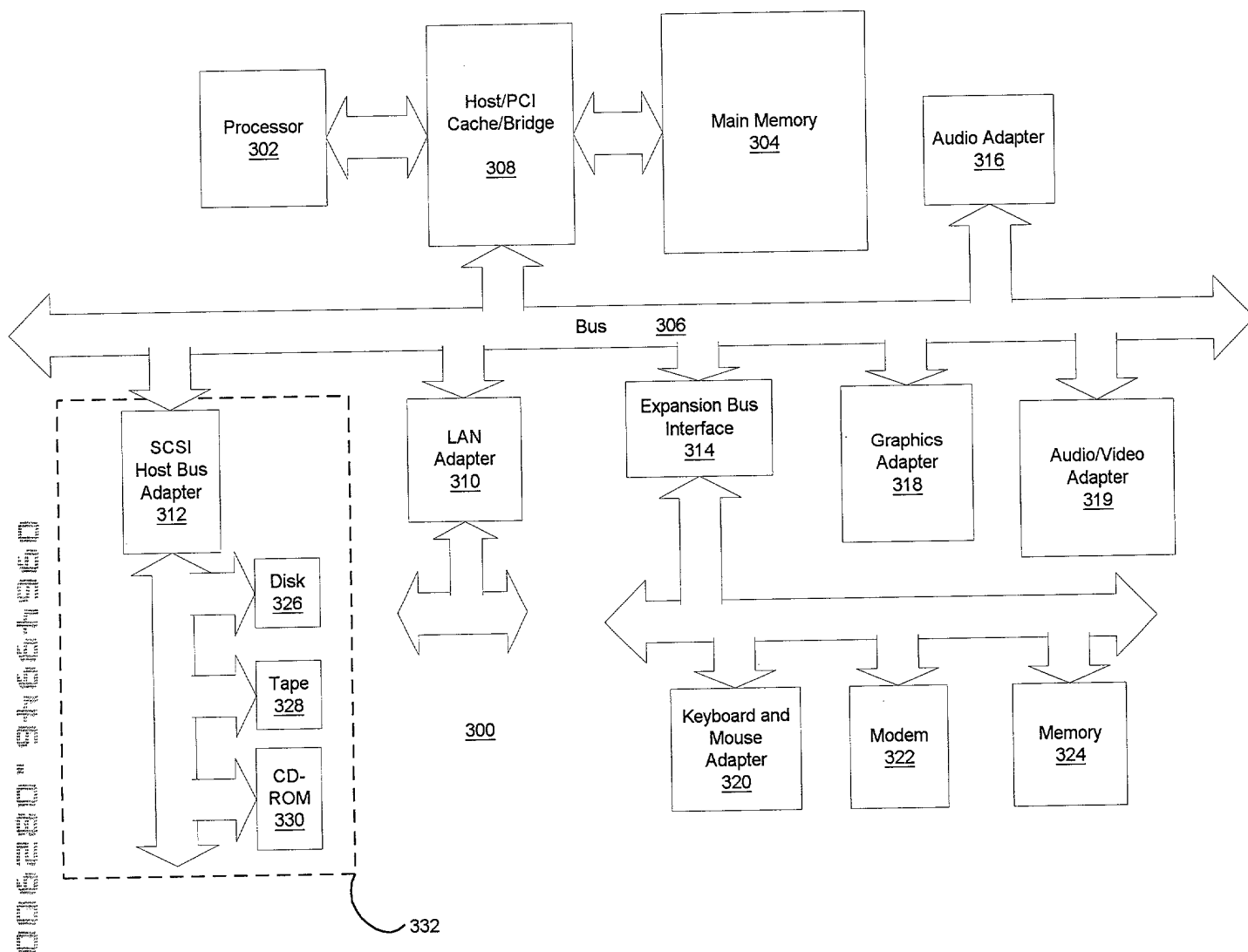
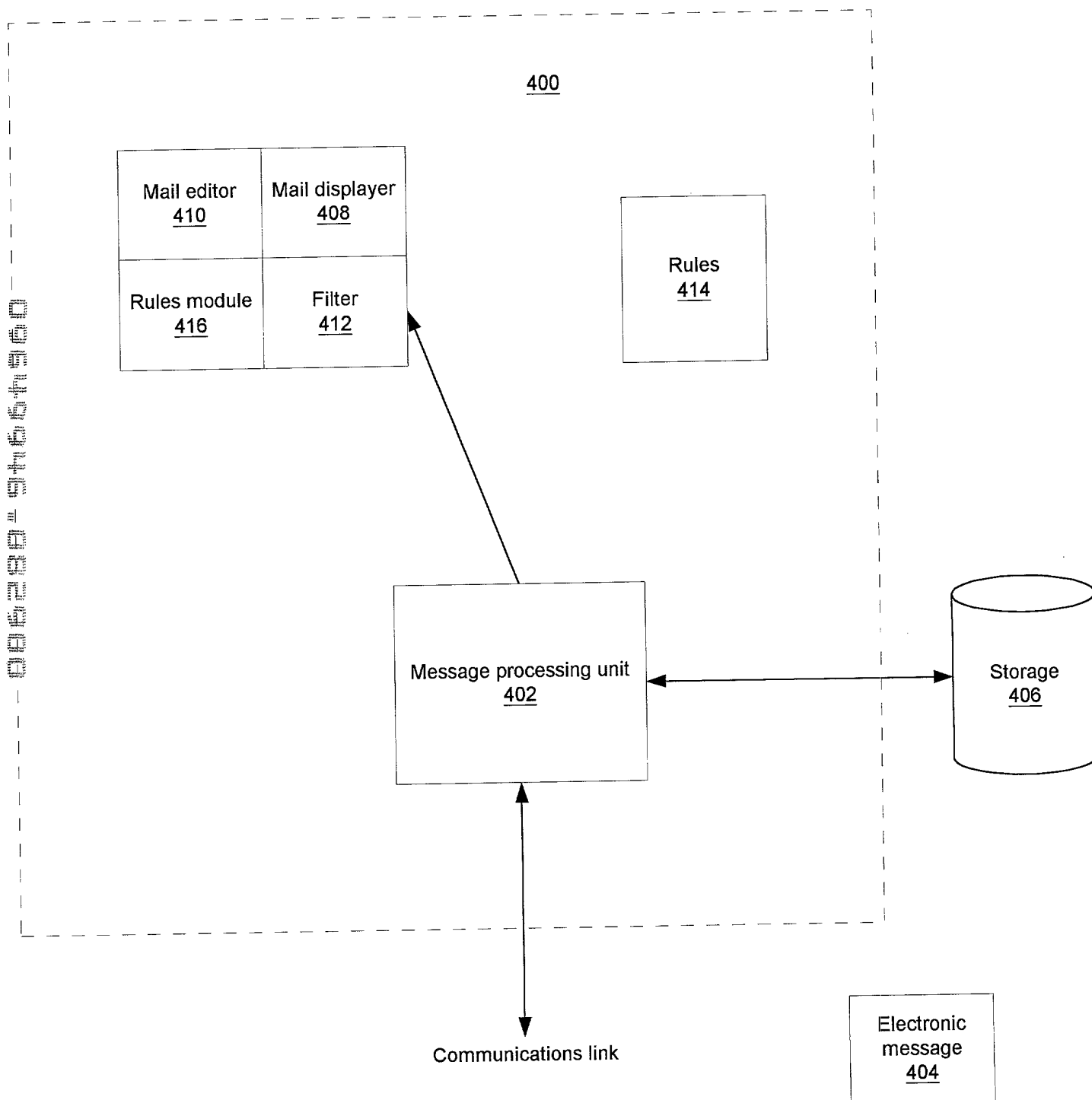


Figure 3

RSW9-2000-0064-US1

# Figure 4

RSW9-2000-0064-US1





The diagram illustrates the flow of mail from incoming mail to mail folders via routing rules. It is divided into three main sections: Incoming mail, Routing rules, and Mail folders.

**Incoming mail (500):** This section contains a large rectangular box representing the incoming mail stream.

**Routing rules (508):** This section contains a box representing the routing rules. The text inside the box is:

From Joe  
email= joe@ibm.com  
508

**Mail folders (502):** This section contains three boxes representing mail folders. The text inside the boxes is:

**Inbox (502):** This box is empty.

**From Joe (504):** This box contains the text:

From Joe  
joe@ibm.com

**From Dan (506):** This box contains the text:

From Dan  
dan@aol.com

Arrows indicate the flow of mail from the Incoming mail section to the Mail folders section, passing through the Routing rules section.

RSW9-2000-0064-US1

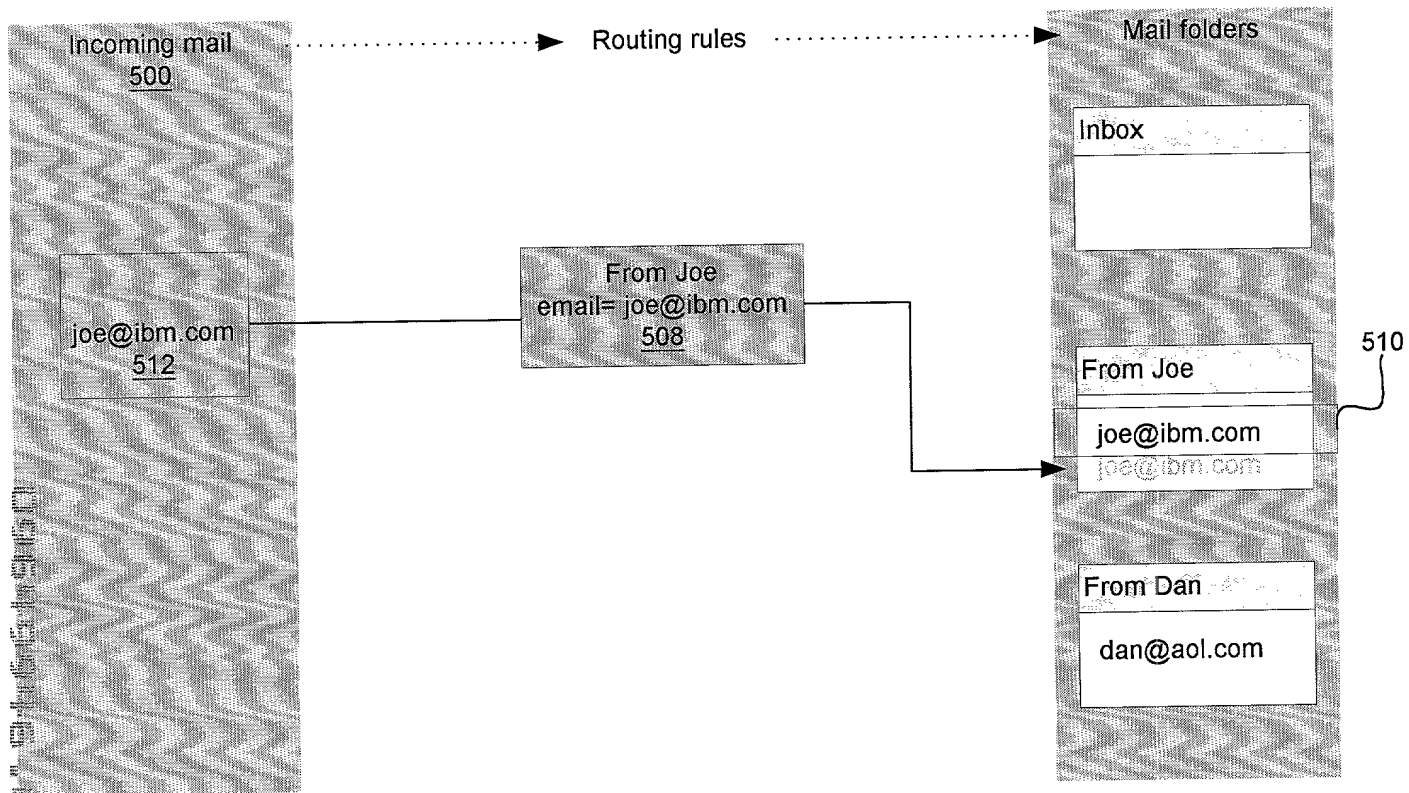
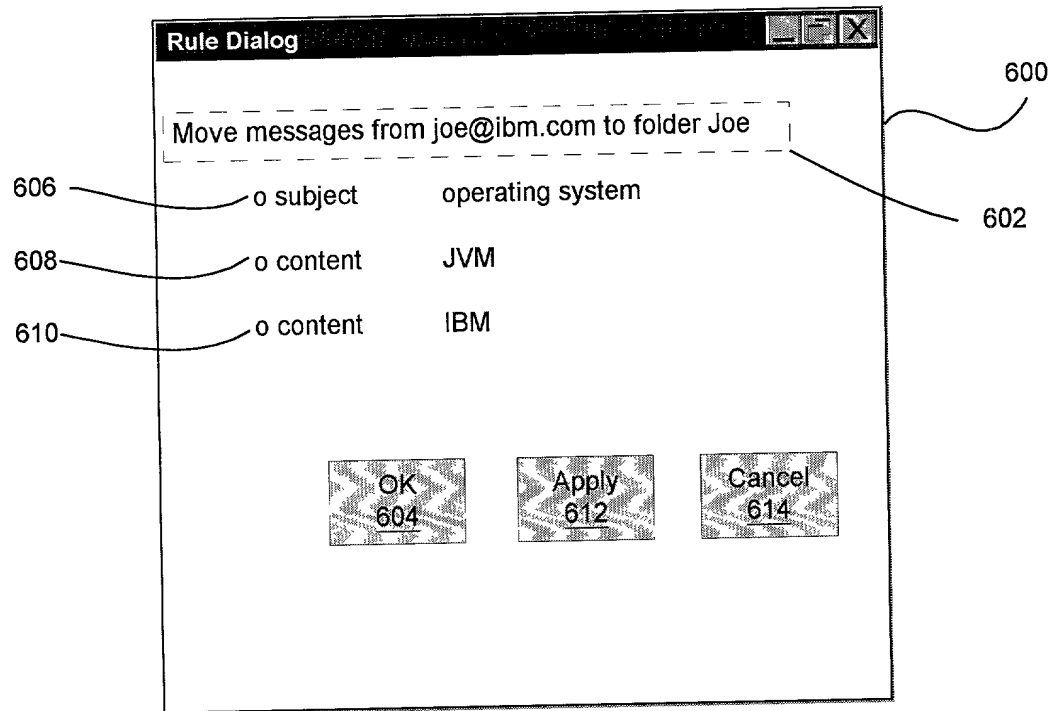


Figure 5C

RSW9-2000-0064-US1

# Figure 6

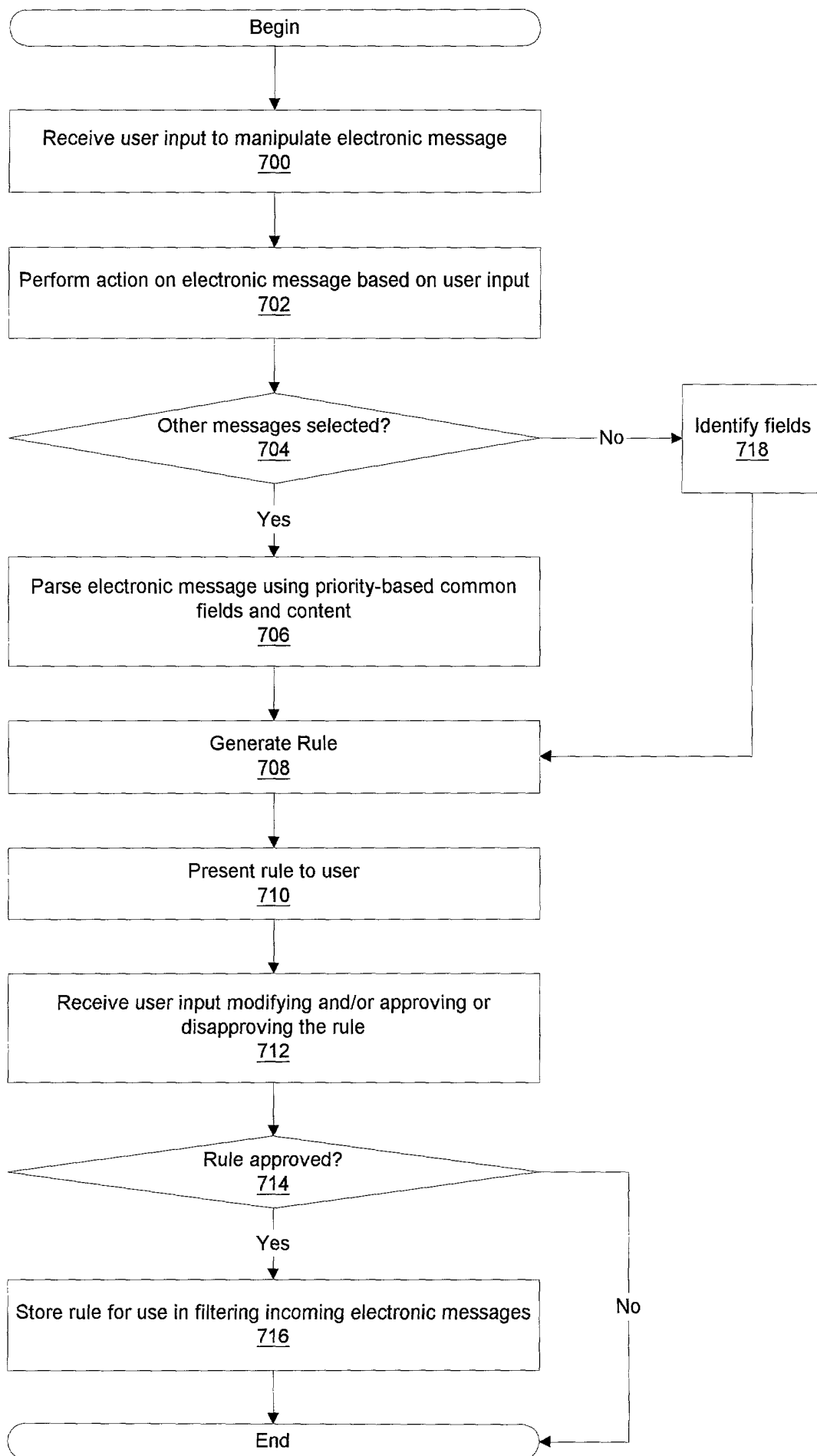
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RSW9-2000-0064-US1



**DECLARATION AND POWER OF ATTORNEY  
FOR PATENT APPLICATION**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name; I believe I am an original, first and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled:

**METHOD AND SYSTEM FOR CREATING MAIL RULES FROM EXISTING  
MAIL**

the specification of which is identified by the attorney (IBM) Docket Number appearing above.

I hereby state that I have reviewed and understand the contents of the above- identified specification, including the claims.

I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

**Prior Foreign Application(s)**

<u>Number</u>	<u>Country</u>	<u>Day/Month/Year</u>	<u>Priority Claimed</u>
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I hereby claim the benefit (a) under Title 35, United States Code, §119(e) of any U.S. application listed below and identified as a provisional application or (b) under Title 35, United States Code, §120 of any U.S. application listed below and not identified as a provisional application, and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior U.S. application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose information material to the patentability of this application as defined in Title 37, Code of Federal Regulations, §1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application

**Prior U.S. Applications**

<u>Serial No.</u>	<u>Filing Date</u>	<u>Status</u>
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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

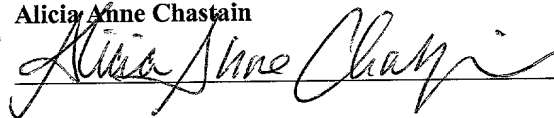
As a named inventor, I hereby appoint the following attorneys and/or agents to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: A. Bruce Clay, Reg. No. 32,121; Gregory M. Doudnikoff, Reg. No. 32,847; Edward H. Duffield, Reg. No. 25,970; Jerry W. Herndon, Reg. No. 27,901; Gerald R. Woods, Reg. No. 24,144; Jeanine S. Ray-Yarletts, Reg. No. 39,808; Joseph C. Redmond, Jr., Reg. No. 18,753; John E. Hoel, Reg. No. 26,279; Christopher A. Hughes, Reg. No. 26,914; and Edward A. Pennington, Reg. No. 32,588;

AND also,

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**Signature:**



8/28/2000

**Date**

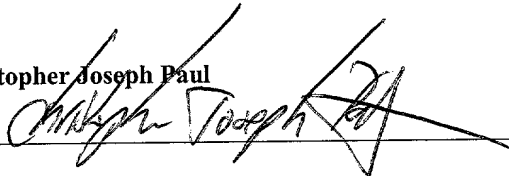
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